

### Amendments to the Claims

Claim 1 (Currently amended): A method of automated ~~handling~~ seed conditioning of a plurality of sets of previously harvested seed in batches through ~~one~~ two or more operations upon the seed between an input and an output, comprising:

- (a) providing, prior to the input, a unique identifier for each set of seed, wherein said each set comprises a plurality of seed separated from its plant;
- (b) conveying each set of seed, segregated from other sets of seed, from the input to the output without an individual container[[s]] for each set or monitoring a physical location correlated to a pre-defined physical space coordinate system;
- (c) automatically performing said ~~one~~ two or more operations on each set of seed between the input and output while tracking of and progression of each set of seed through said operations is controlled while maintaining segregation of each set of seed from other sets of seed, ~~wherein the operation comprising cleaning the seed and sorting the seed, and the tracking comprises comprising~~ monitoring of one or more of the set consisting of (1) state of said conveying, (2) time, and (3) a said operation relative to each said set of seed, the operations being programmable dependent upon selected parameters, the parameters being related to differences between different types of seed or differences between conditions of the same type of seed;
- (d) conveying each set of seed to the output wherein said tracking provides information used to verify which set of seed is at the output;

- (d)(e) automatically accumulating at the output an end product plurality of seed from each set of seed after performing said ~~one or more~~ operations and storing information about the end product plurality of seed correlated to the identifier;
- (f) separating undesired non-seed or seed from the end product;
- (g) maintaining segregation of each said end product from each set of seed from end product of other sets of seed;

so that identity and progression of each set of seed between input and output is known and commingling of seed from different sets of seed is avoided.

Claim 2 (Cancelled)

Claim 3 (Cancelled)

Claim 4 (Original): The method of claim 1 further comprising monitoring said operations for conditions indicative of an error.

Claim 5 (Previously presented): The method of claim 4 wherein the conditions indicative of an error comprise one or more of (a) over capacity, (b) possibility of commingling of sets of seed, (c) improper operation; (d) lack of validation against a data set; (e) improper set of seed relative to operational set-up.

Claim 6 (Currently Amended): The method of claim 3~~1~~ further comprising regulating movement of a set of seed to deter reaching over-capacity for any operation.

Claim 7 (Cancelled)

Claim 8 (Previously presented): The method of claim 6 wherein control of progression comprises maintaining spatial separation of each set of seed operating on the seed and allowing recovery of each set of seed while preserving its identity from other sets of seed.

Claim 9 (Currently amended): The method of claim 31 further comprising conveying said set of seed to the output wherein said tracking provides information used to verify which set of seed is at the output.

Claim 10 (Currently amended): The method of claim 31 further comprising conveying said set of seed to and through said one or more operations, said tracking providing information to verify the location of the set of seed between input and output.

Claim 11 (Currently amended): The method of claim 9 wherein the tracking comprises tracking ~~the~~ a state of the operations relative to the set of seed.

Claim 12 (Previously presented): The method of claim 11 wherein the state of the operations includes monitoring status of devices that control conveyance of the set of seed.

Claim 13 (Original): The method of claim 1 wherein the sets of seed are seed samples.

Claim 14 (Currently amended): The method of claim ~~[[12]]~~13 wherein the seed samples are related to a plant breeding program.

Claim 15 (Previously presented): The method of claim 14 wherein the plant breeding program is a corn breeding program.

Claim 16 (Previously presented): The method of claim 14 wherein the plant breeding program is a soybean breeding program.

Claim 17 (Previously presented): The method of claim 1 wherein the operations comprise one or more of (a) separating a set of seed from a carrier or adhering vegetation, tissues or structure, (b) cleaning, (c) discriminating between seed in the set of seed, (d) counting, (e) measuring moisture content, (f) measuring weight, (g) evaluating non-destructively, (h) measuring temperature.

Claim 18 (Original): The method of claim 1 further comprising directing said end product into a container.

Claim 19 (Previously presented): The method of claim 5 wherein said data set comprises a data base, a spreadsheet, or a mapped memory.

Claim 20 (Previously presented): The method of claim 5 further comprising generating a label for the set of seed or subset thereof based at least in part on information from the data set.

Claim 21 (Original): The method of claim 1 wherein the operations are self-cleaning.

Claim 22 (Currently amended): The method of claim ~~[[20]]~~21 wherein the operations comprise a cleaning/size sorting operation wherein the cleaning is self-cleaning.

Claim 23 (Original): The method of claim 1 further comprising generating a notification for transmission to a remote location related to accumulated data regarding the set of seed and communicating the notification.

Claim 24 (Previously presented): The method of claim 1 further comprising separating undesired non-seed material and a portion of seed from the set of seed during said one or more operations.

Claim 25 (Previously presented): The method of claim 24 wherein said separated non-seed material and said a portion of seed are either discarded or accumulated for possible future use.

Claims 26-118 (Cancelled)

Claim 119 (Currently amended): A method of automated ~~handling~~seed conditioning of a plurality of sets of previously harvested seed in batches through ~~one~~two or more operations upon the seed between an input and an output, comprising:

- (a) providing, prior to the input, a unique identifier for each set of seed, wherein said each set comprises a plurality of seed separated from its plant;
- (b) conveying each set of seed, segregated from other sets of seed, from the input to the output without an individual container for each set or monitoring a physical location correlated to a pre-defined physical space coordinate system;
- (c) automatically performing said ~~one~~ two or more operations on each set of seed between the input and output while tracking of and progression of each set of seed through said operations is controlled while maintaining segregation of each set of seed from other sets of seed, wherein the operations comprising cleaning the seed and sorting the seed, and the tracking comprises comprising monitoring of one or more of the set consisting of (1) state of said conveying, (2) time, and (3) a said operation relative to each said set of seed;
- (d) conveying each set of seed to the output wherein said tracking provides information used to verify which set of seed is at the output;
- ~~(d)~~(e) automatically accumulating at the output an end product plurality of seed from each set of seed after performing said ~~one or more~~ operations and storing information about the end product plurality of seed correlated to the identifier, further comprising separating undesired non-seed material and a portion of seed from the set of seed during said one or more operations, said separated non-seed material and said portion of seed are either discarded or accumulated for possible future use;
- (f) said end product from each set of seed from end product of other sets of seed;

so that identity and progression of each set of seed between input and output is known and co-mingling of seed from different sets of seed is avoided.

Claim 120 (Cancelled)

Claim 121 (Cancelled)

Claim 122 (Previously presented): The method of claim 119 further comprising monitoring said operations for conditions indicative of an error.

Claim 123 (Previously presented): The method of claim 122 wherein the conditions indicative of an error comprise one or more of (a) over capacity, (b) possibility of commingling of sets of seed, (c) improper operation; (d) lack of validation against a data set; (e) improper set of seed relative to operational set-up.

Claim 124 (Currently amended): The method of claim ~~121~~119 further comprising regulating movement of a set of seed to deter reaching over-capacity for any operation.

Claim 125 (Cancelled)

Claim 126 (Previously presented): The method of claim 124 wherein control of progression comprises maintaining spatial separation of each set of seed operating on the seed and allowing recovery of each set of seed while preserving its identity from other sets of seed.

Claim 127 (Currently amended): The method of claim ~~121~~119 further comprising conveying said set of seed to the output wherein said tracking provides information used to verify which set of seed is at the output.

Claim 128 (Currently amended): The method of claim ~~121~~119 further comprising conveying said set of seed to and through said one or more operations, said tracking providing information to verify the location of the set of seed between input and output.

Claim 129 (Currently amended): The method of claim 127 wherein the tracking comprises tracking ~~the~~a state of the operations relative to the set of seed.

Claim 130 (Previously presented): The method of claim 129 wherein the state of the operations includes monitoring status of devices that control conveyance of the set of seed.

Claim 131 (Previously presented): The method of claim 119 wherein the sets of seed are seed samples.

Claim 132 (Currently amended): The method of claim ~~[[130]]~~131 wherein the seed samples are related to a plant breeding program.

Claim 133 (Previously presented): The method of claim 132 wherein the plant breeding program is a corn breeding program.



Claim 134 (Previously presented): The method of claim 132 wherein the plant breeding program is a soybean breeding program.

Claim 135 (Previously presented): The method of claim 119 wherein the operations comprise one or more of (a) separating a set of seed from a carrier or adhering vegetation, tissues or structure, (b) cleaning, (c) discriminating between seed in the set of seed, (d) counting, (e) measuring moisture content, (f) measuring weight, (g) evaluating non-destructively, (h) measuring temperature.

Claim 136 (Previously presented): The method of claim 119 further comprising directing said end product into a container.

Claim 137 (Previously presented): The method of claim 123 wherein said data set comprises a data base, a spreadsheet, or a mapped memory.

Claim 138 (Previously presented): The method of claim 123 further comprising generating a label for the set of seed or subset thereof based at least in part on information from the data set.

Claim 139 (Previously presented): The method of claim 119 wherein the operations are self-cleaning.

Claim 140 (Currently amended): The method of claim ~~[[138]]~~139 wherein the operations comprise a cleaning/size sorting operation wherein the cleaning is self-cleaning.

Claim 141 (Previously presented): The method of claim 119 further comprising generating a notification for transmission to a remote location related to accumulated data regarding the set of seed and communicating the notification.

Claim 142 (Previously presented): The method of claim 119 wherein the operations are programmable dependent upon selected parameters.

Claim 143 (Previously presented): The method of claim 142 wherein the parameters are related to differences between different types of seed or differences between conditions of the same type of seed.